REMARKS

Claims 29-56 are pending in the application, of which claims 29-47 and 56 are currently under consideration.

Claim 29 has been amended to add the phrase "a fragment of the amino acid sequence of SEQ ID NO:17 having activity in a mixed micelle assay with 1-palmitoyl-2-[^{14}C]-arachidonyl-phosphatidylcholine." Support for this amendment can be found, for example, throughout the specification and at page 7, lines 14-15; and at page 6, line 23, to page 7, line 3.

Claim 40 has been amended to add the phrase "a polypeptide encoded by a polynucleotide, wherein the polypeptide has activity in a mixed micelle assay with 1-palmitoyl-2-[^{14}C]-arachidonyl-phosphatidylcholine, and wherein the polynucleotide hybridizes at 65°C in 4x SSC to the complement of the nucleic acid sequence of SEQ ID NO: 16." Support for this amendment can be found, for example, throughout the specification and at page 7, lines 14-15; at page 5, line 20, to page 6, line 12; and at page 12, lines 15-19.

Claim 40 has also been amended to add the phrase "a polypeptide encoded by a polynucleotide, wherein the polypeptide has activity in a mixed micelle assay with 1-palmitoyl-2-[^{14}C]-arachidonyl-phosphatidylcholine, and wherein the polynucleotide hybridizes at 65°C in 4x SSC to the complement of the nucleic acid sequence of the DNA insert of the plasmid deposited with ATCC as Accession Number 69948." Support for this amendment can be found, for example, throughout the specification and at page 7, lines 14-15; at page 11, lines 21-23; and at page 12, lines 15-19.

Claim 40 has also been amended to add the phrase "a polypeptide encoded by a polynucleotide, wherein the polypeptide has activity in a mixed micelle assay with 1-palmitoyl-2-[^{14}C]-arachidonyl-phosphatidylcholine, and wherein the polynucleotide

hybridizes at 65°C in 4x SSC to the complement of the nucleic acid sequence of the DNA insert of the plasmid deposited with ATCC as Accession Number 69949." Support for this amendment can be found, for example, throughout the specification and at page 7, lines 14-15; at page 11, lines 21-23, as amended on July 1, 2003; and at page 12, lines 15-19.

Claim 44 has been amended to change the phrase "complement thereof" to "a nucleotide sequence that hybridizes at 65°C in 4X SSC to the full length of the complement of SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, the DNA insert of the plasmid deposited with ATCC as Accession Number 69948, or the DNA insert of the plasmid deposited with ATCC as Accession Number 69949" to more clearly recite the claimed invention. Support for this amendment can be found, for example, throughout the specification and at page 7, lines 14-15; page 5, line 20, to page 6, line 12; at page 11, lines 21-23; and at page 12, lines 15-19.

Claim 56 is new. Support for this claim can be found, for example, throughout the specification and at page 7, lines 14-15; and at page 6, line 23, to page 7, line 3.

Upon entry of this amendment, claims 29-47 and 56 are pending for examination. No new matter has been added.

Rejection under 35 U.S.C. § 101

Applicants note with appreciation the Examiner's withdrawal of the 35 U.S.C. § 101 rejection of Claims 29-47.

Rejection under 35 U.S.C. § 112, first paragraph

The Examiner rejects claims 44-47 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. Action at item 4, page 3. The Examiner requests that Applicants submit an affidavit or declaration stating that ATCC 69948 and ATCC 69949 will be replaced if the cultures die or are destroyed and that the deposits will be irrevocably and without restriction or condition released to the public upon issuance of a patent. *Id.* at page 4.

Applicants provide with this response a declaration by M. Andrea Ryan on behalf of Assignee, Genetics Institute, L.L.C., confirming that the conditions and availability of the biological deposit of A.T.C.C. 69948 and 69949 comply with 37 C.F.R. §§ 1.801-1.809 (Attachment 1). This declaration states that ATCC 69948 and ATCC 69949 will be replaced if the cultures die or are destroyed. It also states that the deposits will be irrevocably released to the public upon issuance of a patent, with the exception that is permitted under 37 CFR 1.808(b). See *MPEP* §§ 2410 and 2410.01 (May 2004). This exception states:

> "The depositor may contract with the depository to require that the samples of a deposited biological material shall be furnished only if a request for a sample, during the term of the patent:
>
> (1) Is in writing or other tangible form and dated;
>
> (2) Contains the name and address of the requesting party and the accession number of the deposit; and
>
> (3) Is communicated in writing by the depository to the depositor along with the date on which the sample was furnished and the name and address of the party to whom the sample was furnished."

37 C.F.R. § 1.808(b). Submission of the declaration should obviate the rejection of claims 44-47 under 35 U.S.C. § 112, first paragraph.

Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph.

Rejections under 35 U.S.C. § 112, second paragraph

Applicants note with appreciation Examiner's withdrawal of the 35 U.S.C. § 112, second paragraph, rejection of Claims 29-47.

The Examiner newly rejects claims 40-43 under 35 U.S.C. § 112, second paragraph, as allegedly failing to comply with the enablement requirement. Action at item 7, page 5. The Examiner alleges that "a great deal of sequence variability with respect to the full-length nucleic acid that hybridizes to the complement of a recited SEQ ID is possible...." *Id.* at page 6. The Examiner further alleges that the claims 40-43 recite antibodies that specifically bind polypeptides that have activity in a mixed micelle assay, but that the specification does not teach which amino acids of calcium independent cytosolic phospholipase A2/B must be maintained in order to retain enzymatic activity in the mixed micelle assay. *Id.* The Examiner concludes that "it would not be possible for a skilled artisan to make the recited polynucleotides that hybridize with the complement of the indicated SEQ ID sequences that have the desired functional properties without further experimentation." *Id.* at page 7.

Applicants respectfully traverse.

Applicants note that the test for enablement is not whether one of ordinary skill in the art can predict which nucleic acids can be altered without negatively impacting protein function. Nor is the test whether one of ordinary skill in the art can make and use the invention "without further experimentation." *Id.* (emphasis added). Rather, "the test of enablement is

whether one reasonably skilled in the art could make and use the invention from the disclosure in the patent coupled with information known in the art without undue experimentation." *MPEP* § 2164.01 (May 2004); *United States v. Teletronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988) (emphasis added). In addition, "a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed." *MPEP* § 2164.01 (May 2004); *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988) (internal citation omitted).

In this case, independent claim 40 requires that a person skilled in the art be able to select a polynucleotide sequence that both hybridizes at 65°C in 4X SSC to the complement of the nucleic acid sequence of SEQ ID NO:18, SEQ ID NO: 20, or SEQ ID NO:22, and translates into a polypeptide that has the recited activity in a mixed micelle assay, and to make an antibody against such a polypeptide sequence. In order to do this, a person of ordinary skill in the art could, for example, begin by making a complementary nucleotide sequence to SEQ ID NO:18, SEQ ID NO:20, or SEQ ID NO:22, and determine whether various polynucleotides hybridize to these complementary sequences at 65°C in 4X SSC. This would be a matter of routine, not undue, experimentation, as demonstrated by the discussions of these techniques in standard reference texts, such as Alberts et al., *Molecular Biology of the Cell, Second Edition*, at pages 188-192 and 269 (1989), provided herewith as Exhibit A. This person could then clone the polynucleotide sequences that hybridize under these conditions into an expression vector and introduce the vector into a host cell to induce production of the polypeptide. Again, this would be a matter of routine, not undue, experimentation, as demonstrated by the discussion of this technique in Alberts et al. at page 265, provided herewith as Exhibit A. The

person could then test the activity of the polypeptide in a mixed micelle assay with 1-palmitoyl-2-[^{14}C]-arachidonyl-phosphatidylcholine. The specifics of this assay are provided in the specification. See, *e.g.* Example 3, pages 27-28 of the specification. Lastly, the person of ordinary skill in the art could make an antibody to a polypeptide that showed activity in the assay, using any of the well-known methods for the development of antibodies (see, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual* (1988)). Thus, it is clear that all of these steps require nothing more than routine experimentation. Therefore, claim 40 is enabled, as are dependent claims 41-43.

The Examiner also newly rejects claims 44-47 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. Action at item 8, page 7. The Examiner alleges that the specification does not reasonably provide enablement for antibodies that bind the polypeptide encoded by the complement of SEQ ID NO:16, 18, 20, or 22 or of the nucleic acid insert in the plasmids of ATCC accession numbers 69948 or 69949.

Solely to expedite prosecution and without acquiescing to the rejection, Applicants have amended claim 44 to change the phrase "complement thereof" to "a nucleotide sequence that hybridizes at 65°C in 4X SSC to the full length of the complement of SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, the DNA insert of the plasmid deposited with ATCC as Accession Number 69948, or the DNA insert of the plasmid deposited with ATCC as Accession Number 69949" to more clearly recite the claimed invention. Claims 45-47 depend from claim 44. Thus, the amendment to claim 44 should obviate the Examiner's rejection.

Applicants respectfully request reconsideration and withdrawal of the rejections of claims 40-43 and 44-47 under 35 U.S.C. § 112, second paragraph.

Rejections under 35 U.S.C. § 112, first paragraph

The Examiner newly rejects claims 29-39 under 35 U.S.C. § 112, first paragraph, as allegedly not complying with the written description requirement. Action at item 9, page 9. The Examiner alleges that claims 29-39 have been amended to recite an antibody that binds an epitope but that the specification does not provide support for the limitation "epitope," and characterizes this as the addition of new matter.

Applicants respectfully traverse.

Courts have long defined prohibited "new matter" as something added to the patent that has the effect of changing the invention. *Powder Co. v. Powder Works,* 98 U.S. 126, 138 (1878) ("[B]y 'new matter' we suppose to be meant new substantive matter, such as would have the effect of changing the invention...."), provided herewith as Exhibit B; *In re Gilchrist,* 366 F.2d 493, 495 n.2, 151 U.S.P.Q. 191, 193 n.2 (C.C.P.A. 1966) ("Since we do not see that it adds anything to the description of the claimed method and in no way changes the invention described, we do not regard it as 'new matter'...."), provided herewith as Exhibit C. Amendments that merely make the specification "more clear and distinct" or make a claim "more conformable to the exact rights of the patentee," do not introduce new matter. *Powder Co. v. Powder Works,* 98 U.S. at 138. For example, in a case where the specification provided a list of disposable materials resistant to water and heat, and made it clear that the applicant was concerned with his container's ability to keep out or resist the entry of water, the phrase "substantially non-porous" did not add new matter because one of ordinary skill in the art would think that "[d]esignating materials 'resistant to water' under such circumstances could

only mean that such materials are non-porous." *In re Gay*, 309 F.2d 769, 771, 135 U.S.P.Q. 311, 314 (C.C.P.A. 1962), provided herewith as Exhibit D.

An "epitope" is defined by the Academic Press Dictionary of Science and Technology as "the area of an antigenic molecule that determines the specific antibody to which the antigen binds" (copy of definition provided herewith as Exhibit E). Therefore, all amino acid sequences that can be specifically bound by an antibody contain an epitope. Adding the limitation "epitope" to claims 29-36 does not change the invention claimed. Similarly to *In re Gay*, a person of ordinary skill in the art would think that an antibody that specifically binds to a polypeptide having a certain amino acid sequence means that the antibody specifically binds an epitope in that amino acid sequence. Therefore, amending claims 29-36 to include the term "epitope" does not introduce new matter.

The Examiner also newly rejects claims 29-47 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Action at item 10, page 9. The Examiner alleges that claims 29-47 have been amended to recite a purified antibody, but that he "could not locate support in the specification for the purification of the antibodies of the instant invention." *Id.* at 9-10.

Applicants respectfully traverse.

The first full paragraph on page 19 of the specification states that the antibodies of the invention "may be generated ... using standard methods for the development of polyclonal and monoclonal antibodies as are known to those skilled in the art." This paragraph also describes the use of such antibodies "as research or diagnostic tools." This description implicitly supports a claim to purified antibodies. Indeed, the "standard methods" known at the time the

application was filed include purification of the antibodies. See, *e.g.*, Kuby, "Immunology," page 146 (1992), provided herewith as Exhibit F; Catty, Ed., "Antibodies: A Practical Approach," vol. 1, pages 19-20 (1988), provided herewith as Exhibit G; and Harlow and Lane, "Antibodies: A Laboratory Manual," page 288 (1988), provided herewith as Exhibit H. This is particularly true if the antibody was to be used in certain techniques, such as a diagnostic technique. Therefore, the amendment of the claims to recite a purified antibody has support in the specification as filed and thus, satisfies the written description requirement.

Applicants respectfully request reconsideration and withdrawal of the rejections of claims 29-47 under 35 U.S.C. § 112, first paragraph.

CONCLUSION

Applicants respectfully assert that the present application is in condition for allowance and request that the Examiner issue a timely Notice of Allowance. If the Examiner does not consider the application to be allowable, the undersigned requests that the Examiner call her at (650) 849-6743 to set up an interview.

Please grant any extensions of time required to enter this Response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: September 28, 2005

By: _____
Stephanie M. Liva
Reg. No. 54,278

Attachments:

1. Deposit Declaration
2. American Type Culture Collection deposit receipt
3. Exhibit A: Alberts et al., *Molecular Biology of the Cell, Second Edition*, at pages 188-192, 265, and 269 (1989)
4. Exhibit B: *Powder Co. v. Powder Works,* 98 U.S. 126 (1878)
5. Exhibit C: *In re Gilchrist*, 366 F.2d 493 (C.C.P.A. 1966)
6. Exhibit D: *In re Gay*, 309 F.2d 769 (C.C.P.A. 1962)
7. Exhibit E: definition of "epitope" in the Academic Press Dictionary of Science and Technology, 1992
8. Exhibit F: Kuby, "Immunology," page 146 (1992)
9. Exhibit G: Catty, Ed., "Antibodies: A Practical Approach," vol. 1, pages 19-20 (1988)
10. Exhibit H: Harlow and Lane, "Antibodies: A Laboratory Manual," page 288 (1988)